

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) ~~An extensible rule-based~~ technique for optimizing predicated code during execution of the predicated code, comprising:
 - if-converting an abstract internal representation, wherein the if-converting comprises:
 - testing a condition code associated with a conditional instruction, and
 - writing Boolean data to a general register designated as a destination register based on the testing, the destination register corresponding to the conditional instruction and representing a predicate;
 - transforming the if-converted representation to a machine representation, wherein the transformation includes eliminating the predicate from the if-converted representation; and
 - optimizing the machine representation based on a combination of a predetermined cover analysis and a predetermined replacement pattern such that a redundant instruction in the machine representation is eliminated.
2. (Cancelled)
3. (Original) The technique of claim 1, the eliminating of predicates comprising:
 - eliminating a predicate defining instruction by interpretation.
4. (Original) The technique of claim 1, the eliminating of predicates comprising:
 - eliminating a guarding predicate of a safe instruction by speculation.
5. (Original) The technique of claim 1, the eliminating of predicates comprising:
 - eliminating a guarding predicate of an unsafe instruction by compensation.
6. (Original) The technique of claim 1, the eliminating of predicates comprising:
 - eliminating a guarding predicate of an unsuitable instruction by reverse if-conversion.
- 7-9. (Cancelled)

10. (Currently Amended) An apparatus for optimizing predicate code during execution of the predicated code, comprising:

- means for if-converting an abstract internal representation, wherein the means for if-converting comprises:
 - means for testing a condition code associated with a conditional instruction, and
 - means for writing Boolean data to a general register designated as a destination register based on the testing, the destination register corresponding to the conditional instruction and representing a predicate;
- means for transforming the if-converted representation to machine representation, wherein the transformation includes eliminating the predicate from the if-converted representation; and
- means for optimizing the machine representation based on a combination of a predetermined cover analysis and a predetermined replacement pattern such that a redundant instruction in the machine representation is eliminated.

11. (Cancelled)

12. (Original) The apparatus of claim 10, the eliminating of predicates comprising:

- means for eliminating a predicate defining instruction by interpretation.

13. (Original) The apparatus of claim 10, the eliminating of predicates comprising:

- means for eliminating a guarding predicate of a safe instruction by speculation.

14. (Original) The apparatus of claim 10, the eliminating of predicates comprising:

- means for eliminating a guarding predicate of an unsafe instruction by compensation.

15. (Original) The apparatus of claim 10, the eliminating of predicates comprising:

- means for eliminating a guarding predicate of an unsuitable instruction by reverse if-conversion.

16. (Cancelled)

17. (Currently Amended) ~~An extensible rule-based~~ technique for optimizing predicated code during execution of the predicated code, comprising:

if-converting an abstract internal representation, wherein the if-converting comprises:

testing a condition code associated with a conditional instruction, and

writing Boolean data to a general register designated as a destination register

based on the testing, the destination register corresponding to the

conditional instruction and representing a predicate;

transforming the if- converted representation to a machine representation, wherein the

transformation includes eliminating the predicate from the if-converted representation,

wherein eliminating the predicates, comprises at least one of

eliminating a predicate defining instruction by interpretation;

eliminating a guarding predicate of a safe instruction by speculation;

eliminating a guarding predicate of an unsafe instruction by compensation;

eliminating a guarding predicate of an unsuitable instruction by reverse if-conversion; and

optimizing the machine representation based on a combination of a predetermined cover analysis and a predetermined replacement pattern such that a redundant instruction in the machine representation is eliminated.

18-23. (Cancelled)